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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/550,028

07/14/2006

Tsuyoshi Okamoto

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7366

7590 11/30/2009  
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EXAMINER

VASISTH, VISHAL V

ART UNIT

PAPER NUMBER

1797

MAIL DATE

DELIVERY MODE

11/30/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/550,028	<b>Applicant(s)</b> OKAMOTO ET AL.	
	<b>Examiner</b> VISHAL VASISTH	<b>Art Unit</b> 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 15 July 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,3-6 and 9-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-6 and 9-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                                            |                                                                                         |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                                           | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                        | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

## **DETAILED ACTION**

### ***Response to Amendment***

1. Applicants' amendment filed on 7/15/2009 amended independent claim 1, dependent claims 3, 9-11 and 13 and converted dependent claim 6 into an independent claim. Applicants also cancelled claims 7 and 8 and added new claims 14-16. Applicants' amendments and arguments addressed below do not overcome the 35 USC 103 rejection over Hashimoto in view of Takeshi from the office action mailed on 3/16/2009 and therefore this rejection is maintained below. Also, applicants did not file a terminal disclaimer to obviate the provisional double patenting rejection from the office action mailed on 3/16/2009 therefore this rejection is maintained below and incorporated herein by reference. New grounds of rejection necessitated by the amendment are set forth below with regards to the newly added claims 14-16.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

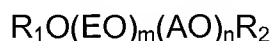
3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

Art Unit: 1797

2. Ascertaining the differences between the prior art and the claims at issue.
  3. Resolving the level of ordinary skill in the pertinent art.
  4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
4. Claims 1, 3-6 and 9-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hashimoto et al., US Patent No. 6,383,991 (hereinafter referred to as Hashimoto) in view of Takeshi et al., JP Publication No. 2002-69470 (hereinafter referred to as Takeshi).

Hashimoto discloses an oil composition comprising preferably 90 wt% or more (overlaps the range as recited in claim 14) (Col. 4/L. 10-12) of a polyether represented by the formula:



wherein each of  $R_1$  and  $R_2$ , which may be identical or different, is hydrogen or a hydrocarbon group having 1 to 24 carbon atoms and at least one is a hydrocarbon group; EO is oxyethylene group; AO is an oxyethylene group having 3 or 4 carbon atoms; and each of m and n is 1 to 50, wherein a sum of m and n is from 4 to 100.

When in the formula above  $R_1$  is hydrogen, EO is an oxyethylene group (which reads on (OA<sup>2</sup>) of instant claim 1 and claim 4), AO is an oxyalkylene group having 4 carbon atoms (which reads on (OCH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>) of instant claim 1) and  $R_2$  is a hydrocarbon group having 1 to 24 carbon atoms (which reads on R<sup>1</sup> being a residue with at least one hydroxyl group removed from a compound with a carbon number of 1 to 24 having 1 to 6 hydroxyl groups as recited in instant claim 1 and R<sup>1</sup> being a residue such that all hydroxyl groups are removed as recited in claim 3).

Based on the formula above  $n = 0$  (as recited in claim 1 wherein  $n$  or  $p = 0$  and  $n$  and  $p$  are not simultaneously 0) and  $q = 1$  or more (within the range  $q$  denotes an integer of 2 or 3). Hashimoto does not explicitly disclose that  $q$  is 2 or 3, but Hashimoto does disclose situations where there are mixtures of polyether compounds represented by the formula above (Col. 3/L. 41-45 and Col. 4/L. 1-12). One of ordinary skill in the art would envisage a mixture including at least 2 of the polyether compounds listed above from the disclosure of Hashimoto. Furthermore, based on the formula above each of  $m$  and  $n$  is from 1 to 50 and the sum of  $m + n$  is from 4 to 100 (which overlaps the range of  $m$  being an integer of 1 or more having an average of 1 to 120 and  $n$  and  $p$  each denoting an integer of 0, 1 or more such that an average of  $(n+p)$  is 1 to 200 as recited in instant claim 1 and the range of  $m/(m+n+p)$  is 0.05 to 0.8 as recited in claim 5). Finally, based on the molecular weights and number of repeating units in the polyether above there would be an overlap of a weight average molecular weight between 500 to 10,000 as recited in claim 1 (see Abstract).

Hashimoto further discloses the use of additives to formulate the finished composition including, thickeners, dispersants, an anticorrosive, a chelating agent, a surfactant and the like (as recited in claim 6) and does not include hydrocarbon oils as another additive (as recited in claim 10) (Col. 4/L. 28-31).

Hashimoto discloses a cutting oil composition that can be used on metals for cutting and grinding wherein the polyether represented by the formula above is present in an amount of 50 wt% or more and the composition can further contain water (within the range as recited in claim 11) (Col. 3-4/L. 65-12 and Col. 6/L. 22-26).

Hashimoto further discloses that the polyether discussed above is a nonionic surfactant, but Hashimoto does not explicitly disclose the HLB of the polyether nonionic surfactant as recited in claim 1.

Hashimoto disclosed the additives discussed above including water, but does not explicitly disclose the additives enumerated in claim 9, or the oil being of a solution type or soluble type as recited in claim 12.

Takeshi discloses lubricant base oil for use as a metalworking fluid, an aluminum disk (as recited in claims 13 and 16), or cutting (Para. [0030]) comprising a polyether with a weight average molecular weight between 500 to 10,000 and an HLB of 8.5 or more (overlaps with the range of 6.1 to 16.0 as recited in claim 1) (Para. [0004]), and additives chosen from water, an antioxidant, an extreme pressure additive, a rust-proofer including fatty acid amines having carbon numbers from 2 to 36 (aliphatic carboxylic acid with a carbon number of 8 to 22 or a salt thereof as recited in claim 6) (Para. [0026]), a defoaming agent and an emulsifier (additives as recited in claim 9) and can be used as an emulsion type, a soluble type, and a solution type lubricant composition (as recited in claims 12 and 15) (Para. [0023]).

The fatty acid amine rust proofing agent is present in the composition in a range of 25 mass% or less. As discussed above the polyether of Hashimoto is present in the composition in a range of 50 wt% or more. Based on these concentrations the ratio between the fatty acid amine rust proofing agent and the polyether surfactant would be within and overlap the range as recited in claim 8.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use a prepare polyether surfactant of Hashimoto with an HLB within the range of Takeshi as Takeshi teaches that surfactants with such an HLB ensure that water solubility will not worsen (Para. [0013] of Takeshi), and additionally to include the additives of Takeshi to improve the rust prevention and extreme pressure properties of Hashimoto.

### ***Double Patenting***

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

6. Claims 1 and 4-6 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-2 of copending

Application No. 11/569,916. Although the conflicting claims are not identical, they are not patentably distinct from each other.

The rejection from Paragraph 5 of office action mailed on 3/16/2009 is maintained and incorporated herein by reference.

### ***Response to Arguments***

7. Applicants' arguments filed on 7/15/2009 with respect to claims 1, 3-6 and 9-16 have been considered and are not persuasive.

Applicants argued that Hashimoto does not explicitly disclose a specific example of a polyether compound that reads on instant claim 1. This argument is not persuasive especially in light of applicants' admission that when p is 0 and q is 1 that the formula of Hashimoto and the formula of instant claim 1 are similar. Also, the entire disclosure of a reference needs to be analyzed in determining patentability, and in the present case in light of the disclosure of Hashimoto one of ordinary skill in the art at the time of the invention would envisage the formula of instant claim 1 from the disclosure of Hashimoto.

The same analysis can be applied to applicants' contention that Hashimoto discloses using a KOH catalyst in the polymerization reaction which can only lead to a block polymer. Applicants further filed a Declaration signed by Tsuyoshi Okamoto under 37 C.F.R. 132 dated 7/15/2009 wherein applicant is asserting that a KOH catalyst cannot be used in a random addition. This contention is not being debated and the examiner is in agreement that a KOH catalyst cannot be used in a random addition.



However, Hashimoto simply discloses that it is possible to form the polyether compounds disclosed in the reference via block or random form and when it is formed by block addition that a KOH catalyst can be used. Hashimoto explicitly states in column 3 that the polyethers disclosed can be in random or block form. This is further demonstrated in Hashimoto by the experimental examples in column 9 wherein several of the cutting oils use random form polyether compounds.

Finally, applicants argued that Hashimoto must disclose a branched AO group as part of the addition reaction because a KOH catalyst can be used according to the disclosure of Hashimoto. Applicants' declaration demonstrates why branched AO groups have inferior properties to linear AO groups. This argument is much like the one above and is not persuasive taken in light of the entire disclosure of Hashimoto. Hashimoto explicitly discloses at the top of column 3 that the AO groups are oxybutylene groups with no mention of branching and that the polyether compounds can take a random form. Therefore, regarding the analysis of superior results it would only be necessary to analyze in a situation where it is evident that Hashimoto discloses only block form and branched AO groups. This is not the case with Hashimoto wherein random form is explicitly disclosed.

### ***Conclusion***

8. Applicants' amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

Art Unit: 1797

§ 706.07(a). Applicants are reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to VISHAL VASISTH whose telephone number is (571)270-3716. The examiner can normally be reached on M-R 8:30a-5:30p.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571)272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1797

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

VVV

/Ellen M McAvoy/

Primary Examiner, Art Unit 1797